

Abstract of the Disclosure:

A method of producing a glass substrate for a mask blank has the steps of measuring a convex/concave profile of a surface of the glass substrate, controlling a flatness of the surface of the glass substrate to a value not greater than a predetermined reference value by specifying the degree of convexity of a convex portion present on the surface of the glass substrate with reference to a result of measurement obtained in the profile measuring step and executing local machining upon the convex portion under a machining condition depending upon the degree of convexity, and polishing, after the flatness control step, the surface of the glass substrate subjected to the local machining. The surface of the glass substrate subjected to the local machining is subjected to acid treatment after the flatness control step and before the polishing step.